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EXAMINER	
SCHLAIFER, JONATHAN D	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/677,467	Applicant(s) AZUMA, RONALD	
	Examiner Jonathan D. Schlaifer	Art Unit 2178	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 September 2000*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-41* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-41* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 September 2000* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *2,5*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This action is responsive to application 09/677,467 filed on 09/29/2000, with prior art filed on 9/29/2000 and 3/5/2002.

2. Claims 1-41 are pending in the case. Claims 1, 3, 13, 22, and 32 are independent claims.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. **Claims 1, 3, and 22 are rejected under 35 U.S.C. 102(e) as being anticipated by Bobrow et al. (USPN 6,562,077 B2—filing date 11/14/1997), hereinafter Bobrow.**

4. **Regarding independent claim 1,** Bobrow discloses in the Abstract an apparatus for positioning labels among graphical elements on a computer graphics display (Abstract, lines 20-25), comprising: a display (Abstract, line 24); and a processor coupled to said display (Abstract, line 1 dictates a document search system, which inherently comprises a processor) and operable to identify at least a first cluster of overlapping labels on said display, and operable to calculate new display coordinates for at least one label in said cluster and to move said label in accordance with said new display coordinates (Abstract, lines 15-25, Bobrow's invention identifies, reorganizes and displays in accordance with the reorganization a group of graphical objects which may be labels).

5. **Regarding independent claim 3,** Bobrow discloses in the Abstract an apparatus for positioning among graphical elements on a computer graphics display (Abstract, lines 10-15), comprising: means for identifying at least a first cluster of overlapping labels; (Abstract, lines 15-20), means for calculating new display coordinates for at least one label in said cluster, (Abstract, lines 20-25), and means for moving said label in accordance with said new display coordinates (Abstract, lines 20-25).

6. **Regarding independent claim 22,** it is a method that is performed by the apparatus of claim 3, and is rejected under similar rationale.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. **Claims 2, 4-5, 8-9, 23-24 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bobrow, further in view of Syeda-Mahmood (USPN 6,507,838 B1—filing date 6/14/2000), further in view of Roy et al. (USPN 6,295,517 B1—filing date 4/7/1998), hereinafter Roy.**

8. **Regarding dependent claim 2,** Bobrow fails to disclose an apparatus wherein said processor is operable to sequentially select labels from a plurality of labels on said display and to test each of said selected labels for overlap with other labels or graphical elements in said display, and said processor is operable to accumulate an overlap score for each of said selected labels and, operable to generate a list of other labels and

graphical elements that overlap each of said selected labels, and operable to compare a plurality of said lists and accumulate cluster lists of overlapping labels and graphical elements, and operable to sort a plurality of said cluster lists according to the number of entries in each. However, Syeda-Mahmood, in col. 2, lines 1-17 discloses the use of queries which select material with relevance score, which are capable of selecting sequential graphical material based on overlap in order to flexibly retrieve graphical objects. It would have been obvious to one of ordinary skill in the art at the time of the invention to use an overlap score to retrieve labels in the manner of Syeda-Mahmood into Bobrow's invention in order to flexibly retrieve graphical objects. Furthermore, Roy, in col. 8, lines 35-48 discloses how clusters of data may be grouped into a graph, which may be topologically sorted (which would produce a sorting by the number of entries), in order to provide organization and order to the data. It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate Roy's sorting capability into Bobrow's invention in order to provide organization and order to the data.

9. **Regarding dependent claim 4,** it is the method of claim 3 modified in a manner analogous to the manner in which claim 2 modifies claim 1, and may be rejected under similar rationale.

10. **Regarding dependent claim 5,** Bobrow fails to disclose an apparatus wherein said overlap score is based on the degree of severity of overlap between labels and graphical elements. However, in col. 2, lines 5-10, in Syeda-Mahmood, the invention uses relevance scores to assess the degree of overlap between matches in order to help manage data relationships effectively. It would have been obvious to one of ordinary skill in the

art at the time of the invention to use the scoring methodology from Syeda-Mahmood's invention to enhance Bobrow's invention in order to help manage data relationships effectively.

11. **Regarding dependent claim 8,** Bobrow, Syeda-Mahmood, and Roy fail to explicitly disclose that said means for sorting orders the sort from largest cluster list to smallest cluster list. However, it was notoriously well known in the art at the time of the invention that it is desirable to sort from largest cluster to smallest cluster to allow processing of the most complicated groups first. It would have been obvious to one of ordinary skill in the art at the time of the invention to sort of largest to smallest cluster to allow processing of the most complicated groups first.

12. **Regarding dependent claim 9,** Bobrow, Syeda-Mahmood, and Roy fail to explicitly disclose means for comparing the degree of overlap of labels and graphical elements with said new display coordinates and the existing degree of overlap of labels and graphical elements. However, as stated in the rejection for claim 4, features for Bobrow, Syeda-Mahmood, and Roy can be combined to calculate overlap scores, and overlap scores can easily be compares to compare the degree of overlap between old and new display coordinates.

13. **Regarding dependent claim 23,** it is a method that is performed by the apparatus of claim 4, and is rejected under similar rationale.

14. **Regarding dependent claim 24,** it is a method that is performed by the apparatus of claim 5, and is rejected under similar rationale.

15. **Regarding dependent claim 27,** it is a method that is performed by the apparatus of claim 8, and is rejected under similar rationale.

16. **Claims 6-7 and 25-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bobrow, further in view of Syeda-Mahmood, further in view of Roy, further in view of Sagawa et al. (USPN 5,963,731—filing date 12/24/1996), hereinafter Sagawa.**

17. **Regarding dependent claim 6,** Bobrow, Syeda-Mahmood, and Roy fail to disclose an apparatus including means for determining that the labels are overlapping other labels or graphical elements when they are mutually overlapping. However, Sagawa, in col. 4, lines 48-64, discloses a process for discriminating between mutually overlapping objects in a computer's memory in order to help discriminate between objects in overlap situations. It would have been obvious to one of ordinary skill in the art at the time of the invention to use Sagawa's method for dealing with overlap situations in the inventions of Bobrow, Syeda-Mahmood, and Roy in order to help discriminate between objects in overlap situations.

18. **Regarding dependent claim 7,** the rejection for claim 6 provides for the case when labels are mutually overlapping, and since the claim states "mutually *or* transitively" overlapping, this claim may be rejected under similar rationale to that used for claim 6.

19. **Regarding dependent claim 25,** it is a method that is performed by the apparatus of claim 6, and is rejected under similar rationale.

20. **Regarding dependent claim 26,** it is a method that is performed by the apparatus of claim 7, and is rejected under similar rationale.

21. **Claims 10 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bobrow, further in view of Deering (USPN 6,525,723 B1—filing date 10/6/1999).**

22. **Regarding dependent claim 10,** Bobrow fails to disclose means for calculating said new display coordinates according to a stochastic method. However, Deering, in col. 17, lines 53-67, discloses the use of stochastic sample points for a display in order to simplify the storage and access of display objects. It would have been obvious to one of ordinary skill in the art at the time of the invention to use Deering's stochastic sample points to simplify the storage and access of display objects.

23. **Regarding dependent claim 29,** it is a method that is performed by the apparatus of claim 10, and is rejected under similar rationale.

24. **Claims 11 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bobrow, further in view of Prakriya et al. (USPN 6,525,723 B1—filing date 10/6/1999), hereinafter Prakriya.**

25. **Regarding dependent claim 11,** Bobrow fails to disclose means for calculating said new display coordinates according to a heuristic method. However, Prakriya, in col. 21, lines 55-60 discloses regulating a display style according to heuristics in order to provide a simple, workable method of regulating display elements. It would have been obvious to one of ordinary skill in the art at the time of the invention to include Prakriya's display heuristics into Bobrow's invention in order to provide a simple, workable method of regulating display elements.

26. **Regarding dependent claim 30,** it is a method that is performed by the apparatus of claim 11, and is rejected under similar rationale.

27. **Claims 12 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bobrow, further in view of Higgins et al. (USPN 5,307,455—filing date 4/11/1990), hereinafter Higgins.**

28. **Regarding dependent claim 12,** Bobrow fails to disclose an apparatus wherein said means for moving further comprises: means for interpolating a plurality of intermediate display coordinates between the existing display coordinates and said new display coordinates and means for sequentially placing the labels at each of said intermediate display coordinates before placing said labels at said new display coordinates, thereby smoothing the movements of said labels on said display. However, Higgins, in col. 5, lines 39-60, describes moving a cursor using interpolated intermediate points in order to smooth the movement of the object. It would have been obvious to one of ordinary skill in the art at the time of the invention to use interpolation as in Higgins in Bobrow's invention in order to smooth the movement of the object.

29. **Regarding dependent claim 31,** it is a method that is performed by the apparatus of claim 12, and is rejected under similar rationale.

30. **Claims 13-14, 17, 20, 32-33, 36, 39, 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bobrow, further in view of Syeda-Mahmood, further in view of Roy, further in view Madden et al. (USPN 6,091,424—filing date 11/1/1996), hereinafter Madden.**

31. **Regarding independent claim 13,** Bobrow discloses an apparatus for positioning labels among graphical elements on a computer graphics display, comprising: means for sequentially selecting labels from a plurality of labels on the display (Abstract, lines 10-

20) but Bobrow fails to disclose means for testing each of said selected labels for overlap with other labels and graphical elements in the display; means for accumulating an overlap score for each of said selected labels; means for generating a list of other labels and graphical elements that overlap each of said selected labels; means for comparing a plurality of said lists and accumulating cluster lists of overlapping labels and graphical elements; means for sorting a plurality of said cluster lists according to the number of entries in each; means for calculating new display coordinates for the labels on a cluster by cluster basis; means for comparing on a cluster by cluster basis, the degree of overlap of labels and graphical elements with said new display coordinates and the existing degree of overlap of labels and graphical elements, and if the new coordinates result in a reducation of the degree of overlap; means for moving the graphical elements to new positions according to said calculated display coordinates; and means for moving the graphical elements to new positions according to said calculated display coordinates. However, Syeda-Mahmood discloses means for testing each of said selected labels for overlap with other labels and graphical elements in the display; means for accumulating an overlap score for each of said selected labels; means for generating a list of other labels and graphical elements that overlap each of said selected labels; means for comparing a plurality of said lists and accumulating cluster lists of overlapping labels and graphical elements; (see col. 2, lines 1-17; Syeda-Mahmood scores and processes the labels.) The advantages of Syeda-Mahmood's invention is that it organizes the labels effectively. It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate Syeda-Mahmood's label-processing features into Bobrow in

order to organize the labels effectively. Furthermore, Roy, in col. 8, lines 35-48 discloses how clusters of data may be grouped into a graph, which may be topologically sorted (which would produce a sorting by the number of entries), in order to provide organization and order to the data. It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate Roy's sorting capability into Bobrow's invention in order to provide organization and order to the data. Finally Madden provides means for calculating new display coordinates for the labels on a cluster by cluster basis (see col. 4, lines 15-25); means for comparing on a cluster by cluster basis (see col. 4, lines 15), the degree of overlap of labels and graphical elements with said new display coordinates and the existing degree of overlap of labels and graphical elements, and if the new coordinates result in a reducation of the degree of overlap (see col. 16, lines 10-65); these cluster-based reassignment techniques are valuable because they provide a reassignment of label locations with less conflicts. It would have been obvious to one of ordinary skill in the art at the time of the invention to reassign label locations according to the means of Madden because it would result in less locational conflict.

32. **Regarding dependent claim 14,** the claim modifies claim 13 in a manner analogous to the manner in which claim 5 modifies claim 4, and may be rejected under similar rationale.

33. **Regarding dependent claim 17,** the claim modifies claim 13 in a manner analogous to the manner in which claim 8 modifies claim 4, and may be rejected under similar rationale.

34. **Regarding dependent claim 20,** Bobrow, Syeda-Mahmood, Roy, and Madden fail to disclose that said calculating of new display coordinates is ordered according to said cluster list. However, the cluster list was generated for the purpose of organizing the display coordinates and it was notoriously well known in the art at the time of the invention that it would be helpful to use an organizational tool to help generate new display coordinates because it facilitates the process. It would have been obvious to one of ordinary skill in the art at the time of the invention to use cluster lists to generate new display coordinates because it would help organize and facilitate an approach to generating display coordinates.
35. **Regarding independent claim 32,** it is a method that is performed by the apparatus of claim 13, and is rejected under similar rationale.
36. **Regarding dependent claim 33,** it is a method that is performed by the apparatus of claim 14, and is rejected under similar rationale.
37. **Regarding dependent claim 36,** it is a method that is performed by the apparatus of claim 17, and is rejected under similar rationale.
38. **Regarding dependent claim 39,** it is a method that is performed by the apparatus of claim 20, and is rejected under similar rationale.
39. **Regarding dependent claim 41,** Bobrow, Syeda-Mahmood, Roy, and Madden fail to disclose the step of repeating the foregoing sequence of steps through a plurality of iterations. However, it was notoriously well known in the art at the time of the invention that it is useful to repeat useful processes multiple times to gain their benefits repeatedly. It would have been obvious to one of ordinary skill in the art at the time of the invention

to repeat a method based on the inventions of Bobrow, Syeda-Mahmood, Roy, and Madded in order to gain repeated benefits.

40. **Claims 15-16 and 34-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bobrow, further in view of Syeda-Mahmood, further in view of Roy, further in view Madden, further in view of Sagawa.**

41. **Regarding dependent claim 15,** the claim modifies claim 13 in a manner analogous to the manner in which claim 6 modifies claim 4, and may be rejected under similar rationale.

42. **Regarding dependent claim 16,** the claim modifies claim 13 in a manner analogous to the manner in which claim 7 modifies claim 4, and may be rejected under similar rationale.

43. **Regarding dependent claim 34,** it is a method that is performed by the apparatus of claim 15, and is rejected under similar rationale.

44. **Regarding dependent claim 35,** it is a method that is performed by the apparatus of claim 16, and is rejected under similar rationale.

45. **Claim 18 and 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bobrow, further in view of Syeda-Mahmood, further in view of Roy, further in view Madden, further in view of Deering.**

46. **Regarding dependent claim 18,** the claim modifies claim 13 in a manner analogous to the manner in which claim 10 modifies claim 3, and may be rejected under similar rationale.

47. **Regarding dependent claim 37,** it is a method that is performed by the apparatus of claim 18, and is rejected under similar rationale.

48. **Claim 19 and 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bobrow, further in view of Syeda-Mahmood, further in view of Roy, further in view Madden, further in view of Prakriya.**

49. **Regarding dependent claim 19,** the claim modifies claim 13 in a manner analogous to the manner in which claim 11 modifies claim 3, and may be rejected under similar rationale.

50. **Regarding dependent claim 38,** it is a method that is performed by the apparatus of claim 19, and is rejected under similar rationale.

51. **Claims 21 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bobrow, further in view of Syeda-Mahmood, further in view of Roy, further in view Madden, further in view of Higgins.**

52. **Regarding dependent claim 21,** the claim modifies claim 13 in a manner analogous to the manner in which claim 12 modifies claim 3, and may be rejected under similar rationale.

53. **Regarding dependent claim 40,** it is a method that is performed by the apparatus of claim 21, and is rejected under similar rationale.

54. **Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bobrow, further in view Madden.**

55. **Regarding dependent claim 28,** Bobrow fails to disclose that the calculating step further comprises the step of: comparing the degree of overlap of labels and graphical elements

with said new display coordinates and the existing degree of overlap of labels and graphical elements, and if the new coordinates result in a reduction of the degree of overlap, proceeding to said moving step. However, Madden provides means for calculating new display coordinates for the labels on a cluster by cluster basis (see col. 4, lines 15-25); means for comparing on a cluster by cluster basis (see col. 4, lines 15), the degree of overlap of labels and graphical elements with said new display coordinates and the existing degree of overlap of labels and graphical elements, and if the new coordinates result in a reducation of the degree of overlap (see col. 16, lines 10-65); these cluster-based reassignment techniques are valuable because they provide a reassignment of label locations with less conflicts. It would have been obvious to one of ordinary skill in the art at the time of the invention to reassign label locations according to the means of Madden because it would result in less locational conflict.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

USPN 5,450,535 (filing date 9/24/1993)—North

USPN 5,684,940 (filing date 3/13/1995)—Freeman et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan D. Schlaifer whose telephone number is 703-305-9777. The examiner can normally be reached on 8:30-5:00, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather Herndon can be reached on 703-308-5186. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JS

STEPHEN S. HONG
PRIMARY EXAMINER